

In response to the rejection under 35 U.S.C. §112, second paragraph, Claims 3-4 have been canceled and replaced by newly added Claims 5-10. Hence, the rejection of Claims 3-4 under 35 U.S.C. §112, second paragraph, is moot. Further, newly added Claims 5-9 find clear support in canceled Claims 3-4 as well as the specification. In particular, Claims 5 and 7-10 recite subject matter clearly supported by Claims 3-4 while Claim 6 recites subject matter clearly supported in page 5, lines 2-4 of the specification. Accordingly, Claims 5-10 are not believed to raise a question of new matter.

Before discussing the outstanding rejections on the merits, it is believed that a brief review of Applicants' invention recited in Claim 5 would be helpful.

In conventional methods for cutting an optical fiber, cut optical fibers leave end surfaces not sufficiently smooth. Such surfaces influence the transmission loss of a light, causing the low operability of the optical fibers. For example, a conventional method for cutting an optical fiber fails to account that a cutting blade cuts across a varying thickness of an optical fiber, i.e., the cross-section of an optical fiber which gradually increases its thickness toward the middle and gradually decreases thereafter. When constant force is applied to move the cutting blade through the optical fiber, the cutting blade incises through the optical fiber at a varying speed depending upon its depth of incision. The applicants have discovered that a speed of the cutting blade during incision is crucial to obtain a smooth end surface and that the appropriate speed is directly related to a blade thickness of the cutting blade.¹ Furthermore, by adjusting the speed of the cutting blade based on the blade thickness of the cutting blade, stress on the cutting blade is decreased during cutting, thereby keeping

¹ Specification, page 4, line 8 to page 5, line 2.

the cutting blade sharp for a longer period.² Subsequently, Applicants have discovered that by cutting an optical fiber at a speed of the cutting blade incising the optical fiber based upon an equation, $\beta \leq -253\alpha + 65$ (mm/minute), the optical fiber possessing a smooth end surface sufficient for high operability can be obtained while an early deterioration of the cutting blade is prevented.³

Claim 5 is therefore directed to a method for cutting an optical fiber, including the step of moving a cutting blade having a blade thickness α (mm) at a speed β (mm/minute) during the cutting, wherein $\beta \leq -253\alpha + 65$ (mm/minute). However, Walker does not disclose how to move a cutting blade having a blade thickness α (mm) at a speed β (mm/minute) during the cutting, wherein $\beta \leq -253\alpha + 65$ (mm/minute). On the contrary, Walker merely discloses how to cleave an optical fiber while controlling tension exerted on the optical fiber.⁴ Additionally, Walker states in a preferred embodiment that "chisel is recessed in support 36 to the extent desired to control the depth that the chisel will penetrate the fiber F during the cleaving operation."⁵ Thus, the Walker method teaches how to cleave an optical fiber by partially penetrating the chisel into the fiber while tension applied to the fiber tears the fiber apart. Accordingly, Walker is not believed to anticipate nor obviate the specific process recited in Claim 5.

² Specification, page 4, lines 7-11 and lines 21-24.

³ Id. page 6, lines 18-22.

⁴ Walker, column 3, lines 5-9.

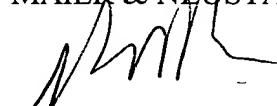
⁵ Id. column 3, lines 38-43.

Because Claims 6-10 depend directly or indirectly from Claim 5, substantially the same arguments set forth above apply to Claims 6-10. Thus, Claims 6-10 are also believed to be distinguishable and allowable over Walker.

Consequently, in view of the present amendment, it is respectfully submitted that the present application is believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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